

Docket No.: M4065.0609/P609-D
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Jiutao Li

Application No.: NEW

Confirmation No.:

Filed: January 16, 2004

Art Unit: N/A

For: AGGLOMERATION ELIMINATION
FOR METAL SPUTTER DEPOSITION
OF CHALCOGENIDES

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

Those patent(s) or publication(s) which are marked with an asterisk (*) in the attached form PTO/SB/08 are not supplied because they were previously cited by or submitted to the Office in a prior application no. 09/809,331, filed March 15, 2001, and relied upon in this application for an earlier filing date under 35 U.S.C. 120.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

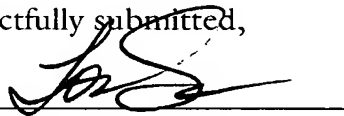
It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1073, under Order No. M4065.0609/P609-D. A duplicate copy of this paper is enclosed.

Dated: January 16, 2004

Respectfully submitted,

By



Thomas J. D'Amico

Registration No.: 28,371

DICKSTEIN SHAPIRO MORIN &
OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorney for Applicant

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	NEW
				Filing Date	January 7, 2004
				First Named Inventor	Jiutao Li
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	1	of	9	Attorney Docket Number	M4065.0609/P609/P609-D

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AA	5,761,115*	06/02/1998	Kozicki et al.	
	AB	6,084,796*	07/04/2000	Kozicki et al.	
	AC	5,914,893*	06/22/1999	Kozicki et al.	
	AD	5,896,312*	04/20/1999	Kozicki et al.	
	AE	6,388,324*	05/14/2002	Kozicki et al.	
	AF	US 2002/0000666*	01/03/2002	Kozicki et al.	
	AG	5,500,532*	03/19/1996	Kozicki et al.	
	AH	6,418,049*	07/09/2002	Kozicki et al.	
	AI	5,751,012*	05/12/1998	Wolstenholme et al.	
	AJ	5,789,277*	08/04/1998	Zahorik et al.	
	AK	6,348,365*	02/19/2202	Moore et al.	
	AL	US2002/0168820*	11/14/2002	Kozicki, et al.	
	AM	6,469,364*	10/22/2002	Kozicki	
	AN	2002/0072188 App*	6/2002	Gilton	
	AO	2002/0123169 App*	9/2002	Moore et al.	
	AP	2002/0123248 App.*	9/2002	Moore et al.	
	AQ	3,622,319*	11/1971	Sharp	
	AR	3,743,847*	7/1973	Boland	
	AS	4,269,935*	5/1981	Masters et al.	
	AT	4,312,938*	1/1982	Drexler, et al.	
	AU	4,316,946*	1/1982	Masters, et al.	
	AV	4,320,191*	3/1982	Yoshikawa et al.	
	AW	4,405,710*	9/1983	Balasubramanyam et al.	
	AX	4,419,421*	12/1983	Wichelhaus, et al.	
	AY	4,795,657*	1/1989	Formigoni et al.	
	AZ	4,847,674*	7/1989	Sliwa et al.	
	AA1	4,499,557*	2/1985	Holmberg et al.	
	AB1	5,177,567*	1/1993	Klersy et al.	
	AC1	5,219,788*	6/1993	Abernathay et al.	
	AD1	5,238,862*	8/1993	Blalock et al.	
	AE1	5,315,131*	5/1994	Kishimoto et al.	
	AF1	5,350,484*	9/1994	Gardner et al.	
	AG1	5,360,981*	11/1994	Owen et al.	
	AH1	5,512,328*	4/1996	Yoshimura et al.	
	AI1	5,512,773*	4/1996	Wolf et al.	
	AJ1	5,726,083*	3/1998	Takaishi	
	AK1	5,841,150*	11/1998	Gonzalez et al.	
	AL1	5,846,889*	12/1998	Harbison et al.	
	AM1	5,920,788*	7/1999	Reinberg	
	AN1	5,998,066*	12/1999	Block et al.	
	AO1	6,077,729*	6/2000	Harshfield	
	AP1	6,117,720*	9/2000	Harshfield	
	AQ1	6,143,604*	11/2000	Chiang et al.	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	NEW
				Filing Date	January 7, 2004
				First Named Inventor	Jiutao Li
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	2	of	9	Attorney Docket Number	M4065.0609/P609/P609-D

	AR1	6,177,338*	1/2001	Liaw et al.	
	AS1	6,236,059*	5/2001	Wolstenholme et al.	
	AT1	6,297,170*	10/2001	Gabriel et al.	
	AU1	6,300,684*	10/2001	Gonzalez et al.	
	AV1	6,316,784*	11/2001	Zahorik et al.	
	AW1	6,329,606*	12/2001	Freyman et al.	
	AX1	6,350,679*	2/2002	McDaniel et al.	
	AY1	6,376,284*	4/2002	Gonzalez et al.	
	AZ1	6,391,688*	5/2002	Gonzalez et al.	
	AA2	6,414,376*	7/2002	Thakur et al.	
	AB2	6,423,628*	7/2002	Li et al.	
	AC2	6,487,106*	11/26/2002	Kozicki	
	AD2	5,314,772*	5/24/1994	Kozicki	
	AE2	2002/0190350 APP*	12/19/2002	Kozicki	
	AF2	2003/0027416 APP*	2/6/2003	Moore	
	AG2	2003/0001229 APP*	1/2/2003	Moore et al.	
	AH2	2002/0106849 APP*	8/8/2002	Moore	
	AI2	2002/0127886 APP*	9/12/2002	Moore et al.	
	AJ2	2002/0123170 APP*	9/5/2002	Moore et al.	
	AK2	2002/0163828 APP*	11/2002	Krieger et al.	
	AL2	6,072,716*	6/2000	Jacobson et al.	
	AM2	5,272,359*	12/93	Nagasubramanian et al.	
	AN2	4,671,618*	6/87	Wu et al.	
	AO2	4,800,526*	1/89	Lewis	
	AP2	2003/0035314*	02/20/03	Kozicki	
	AQ2	2003/0035315*	02/20/03	Kozicki	
	AR2	6,473,332*	04/04/01	Ignatiev et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	BA	WO 02/21542*	03/14/2002	Kozicki et al.		
	BB	WO 00/48196*	08/17/2000	Kozicki et al.		
	BC	WO 97/48032*	12/18/1997	Kozicki et al.		
	BD	WO 99/28914*	06/10/1999	Kozicki et al.		
	BE	JP56126916*	10/1981	Akira et al.		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant

¹ Applicant's unique citation designation number (optional). ² See attached Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>			Complete if Known		
			Application Number	NEW	
			Filing Date	January 7, 2004	
			First Named Inventor	Jiutao Li	
			Group Art Unit	N/A	
			Examiner Name	Not Yet Assigned	
Sheet	3	of	9	Attorney Docket Number	M4065.0609/P609/P609-D

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	CA	Abdel-All, A.; Elshafie, A.; Elhawary, M.M., DC electric-field effect in bulk and thin-film Ge ₅ As ₃₈ Te ₅₇ chalcogenide glass, Vacuum 59 (2000) 845-853.	
	CB	Adler, D.; Moss, S.C., Amorphous memories and bistable switches, J. Vac. Sci. Technol. 9 (1972) 1182-1189.	
	CC	Adler, D.; Henisch, H.K.; Mott, S.N., The mechanism of threshold switching in amorphous alloys, Rev. Mod. Phys. 50 (1978) 209-220.	
	CD	Affifi, M.A.; Labib, H.H.; El-Fazary, M.H.; Fadel, M., Electrical and thermal properties of chalcogenide glass system Se ₇₅ Ge _{25-x} Sb _x , Appl. Phys. A 55 (1992) 167-169.	
	CE	Affifi, M.A.; Labib, H.H.; Fouad, S.S.; El-Shazly, A.A., Electrical & thermal conductivity of the amorphous semiconductor GexSe _{1-x} , Egypt, J. Phys. 17 (1986) 335-342.	
	CF	Alekperova, Sh.M.; Gadzhieva, G.S., Current-Voltage characteristics of Ag ₂ Se single crystal near the phase transition, Inorganic Materials 23 (1987) 137-139.	
	CG	Aleksiejunas, A.; Cesnys, A., Switching phenomenon and memory effect in thin-film heterojunction of polycrystalline selenium-silver selenide, Phys. Stat. Sol. (a) 19 (1973) K169-K171.	
	CH	Angell, C.A., Mobile ions in amorphous solids, Annu. Rev. Phys. Chem. 43 (1992) 693-717.	
	CI	Aniya, M., Average electronegativity, medium-range-order, and ionic conductivity in superionic glasses, Solid state Ionics 136-137 (2000) 1085-1089.	
	CJ	Asahara, Y.; Izumitani, T., Voltage controlled switching in Cu-As-Se compositions, J. Non-Cryst. Solids 11 (1972) 97-104.	
	CK	Asokan, S.; Prasad, M.V.N.; Parthasarathy, G.; Gopal, E.S.R., Mechanical and chemical thresholds in IV-VI chalcogenide glasses, Phys. Rev. Lett. 62 (1989) 808-810	
	CL	Baranovskii, S.D.; Cordes, H., On the conduction mechanism in ionic glasses, J. Chem. Phys. 111 (1999) 7546-7557.	
	CM	Belin, R.; Taillades, G.; Pradel, A.; Ribes, M., Ion dynamics in superionic chalcogenide glasses: complete conductivity spectra, Solid state Ionics 136-137 (2000) 1025-1029.	
	CN	Belin, R.; Zerouale, A.; Pradel, A.; Ribes, M., Ion dynamics in the argyrodite compound Ag ₇ GeSe ₅ I: non-Arrhenius behavior and complete conductivity spectra, Solid State Ionics 143 (2001) 445-455.	
	CO	Benmore, C.J.; Salmon, P.S., Structure of fast ion conducting and semiconducting glassy chalcogenide alloys, Phys. Rev. Lett. 73 (1994) 264-267.	
	CP	Bernede, J.C., Influence du metal des electrodes sur les caracteristiques courant-tension des structures M-Ag ₂ Se-M, Thin solid films 70 (1980) L1-L4.	
	CQ	Bernede, J.C., Polarized memory switching in MIS thin films, Thin Solid Films 81 (1981) 155-160.	
	CR	Bernede, J.C., Switching and silver movements in Ag ₂ Se thin films, Phys. Stat. Sol. (a) 57 (1980) K101-K104.	
	CS	Bernede, J.C.; Abachi, T., Differential negative resistance in metal/insulator/metal structures with an upper bilayer electrode, Thin solid films 131 (1985) L61-L64.	
	CT	Bernede, J.C.; Conan, A.; Fousenat, E.; El Bouchairi, B.; Goureaux, G., Polarized memory switching effects in Ag ₂ Se/Se/M thin film sandwiches, Thin solid films 97 (1982) 165-171.	
	CU	Bernede, J.C.; Khelil, A.; Kettaf, M.; Conan, A., Transition from S- to N-type differential negative resistance in Al-Al ₂ O ₃ -Ag ₂ -xSe _{1+x} thin film structures, Phys. Stat. Sol. (a) 74 (1982) 217-224.	
	CV	Bondarev, V.N.; Pikhitsa, P.V., A dendrite model of current instability in RbAg ₄ I ₅ , Solid State Ionics 70/71 (1994) 72-76.	
	CW	Boolchand, P., The maximum in glass transition temperature (T _g) near x=1/3 in GexSe _{1-x}	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				C mplete if Known	
				Application Number	NEW
				Filing Date	January 7, 2004
				First Named Inventor	Jiutao Li
				Group Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	4	of	9	Attorney Docket Number	M4065.0609/P609/P609-D

		Glasses, Asian Journal of Physics (2000) 9, 709-72.	
	CX	Boolchand, P.; Bresser, W.J., Mobile silver ions and glass formation in solid electrolytes, Nature 410 (2001) 1070-1073.	
	CY	Boolchand, P.; Georgiev, D.G.; Goodman, B., Discovery of the Intermediate Phase in Chalcogenide Glasses, J. Optoelectronics and Advanced Materials, 3 (2001), 703	
	CZ	Boolchand, P.; Selvanathan, D.; Wang, Y.; Georgiev, D.G.; Bresser, W.J., Onset of rigidity in steps in chalcogenide glasses, Properties and Applications of Amorphous Materials, M.F. Thorpe and Tichy, L. (eds.) Kluwer Academic Publishers, the Netherlands, 2001, pp. 97-132.	
	CA1	Boolchand, P.; Enzweiler, R.N.; Tenhover, M., Structural ordering of evaporated amorphous chalcogenide alloy films: role of thermal annealing, Diffusion and Defect Data Vol. 53-54 (1987) 415-420.	
	CB1	Boolchand, P.; Grothaus, J.; Bresser, W.J.; Suranyi, P., Structural origin of broken chemical order in a GeSe2 glass, Phys. Rev. B 25 (1982) 2975-2978.	
	CC1	Boolchand, P.; Grothaus, J.; Phillips, J.C., Broken chemical order and phase separation in GexSe1-x glasses, Solid state comm. 45 (1983) 183-185.	
	CD1	Boolchand, P., Bresser, W.J., Compositional trends in glass transition temperature (Tg), network connectivity and nanoscale chemical phase separation in chalcogenides, Dept. of ECECS, Univ. Cincinnati (October 28, 1999) 45221-0030.	
	CE1	Boolchand, P.; Grothaus, J., Molecular Structure of Melt-Quenched GeSe2 and GeS2 glasses compared, Proc. Int. Conf. Phys. Semicond. (Eds. Chadi and Harrison) 17 th (1985) 833-36.	
	CF1	Bresser, W.; Suranyi, P., Rigidity percolation and molecular clustering in network glasses, Phys. Rev. Lett. 56 (1986) 2493-2496.	
	CG1	Bresser, W.J.; Boolchand, P.; Suranyi, P.; de Neufville, J.P., Intrinsically broken chalcogen chemical order in stoichiometric glasses, Journal de Physique 42 (1981) C4-193-C4-196.	
	CH1	Bresser, W.J.; Boolchand, P.; Suranyi, P.; Hernandez, J.G., Molecular phase separation and cluster size in GeSe2 glass, Hyperfine Interactions 27 (1986) 389-392.	
	CI1	Cahen, D.; Gilet, J.-M.; Schmitz, C.; Chernyak, L.; Gartsman, K.; Jakubowicz, A., Room-Temperature, electric field induced creation of stable devices in CuInSe2 Crystals, Science. 258 (1992) 271-274.	
	CJ1	Chatterjee, R.; Asokan, S.; Titus, S.S.K., Current-controlled negative-resistance behavior and memory switching in bulk As-Te-Se glasses, J. Phys. D: Appl. Phys. 27 (1994) 2624-2627.	
	CK1	Chen, C.H.; Tai, K.L., Whisker growth induced by Ag photodoping in glassy GexSe1-x films, Appl. Phys. Lett. 37 (1980) 1075-1077.	
	CL1	Chen, G.; Cheng, J., Role of nitrogen in the crystallization of silicon nitride-doped chalcogenide glasses, J. Am. Ceram. Soc. 82 (1999) 2934-2936.	
	CM1	Chen, G.; Cheng, J.; Chen, W., Effect of Si3N4 on chemical durability of chalcogenide glass, J. Non-Cryst. Solids 220 (1997) 249-253.	
	CN1	Cohen, M.H.; Neale, R.G.; Paskin, A., A model for an amorphous semiconductor memory device, J. Non-Cryst. Solids 8-10 (1972) 885-891.	
	CO1	Croitoru, N.; Lazarescu, M.; Popescu, C.; Telnic, M.; and Vescan, L., Ohmic and non-ohmic conduction in some amorphous semiconductors, J. Non-Cryst. Solids 8-10 (1972) 781-786.	
	CP1	Dalven, R.; Gill, R., Electrical properties of beta-Ag2Te and beta-Ag2Se from 4.2 to 300K, J. Appl. Phys. 38 (1967) 753-756.	
	CQ1	Davis, E.A., Semiconductors without form, Search 1 (1970) 152-155.	
	CR1	Dearnaley, G.; Stoneham, A.M.; Morgan, D.V., Electrical phenomena in amorphous oxide films, Rep. Prog. Phys. 33 (1970) 1129-1191.	
	CS1	Dejus, R.J.; Susman, S.; Volin, K.J.; Montague, D.G.; Price, D.L., Structure of Vitreous Ag-Ge-Se, J. Non-Cryst. Solids 143 (1992) 162-180.	
	CT1	den Boer, W., Threshold switching in hydrogenated amorphous silicon, Appl. Phys. Lett. 40 (1982) 812-813.	
	CU1	Drusedau, T.P.; Panckow, A.N.; Klabunde, F., The hydrogenated amorphous	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				C mplete if Known	
				Application Number	NEW
				Filing Date	January 7, 2004
				First Named Inventor	Jiutao Li
				Group Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	5	of	9	Attorney Docket Number	M4065.0609/P609/P609-D

		silicon/nanodisperse metal (SIMAL) system-Films of unique electronic properties, J. Non-Cryst. Solids 198-200 (1996) 829-832.	
CV1		El Bouchairi, B.; Bernede, J.C.; Burgaud, P., Properties of Ag ₂ -xSe _{1+x/n} -Si diodes, Thin Solid Films 110 (1983) 107-113.	
CW1		El Gharras, Z.; Bourahla, A.; Vautier, C., Role of photoinduced defects in amorphous GexSe _{1-x} photoconductivity, J. Non-Cryst. Solids 155 (1993) 171-179.	
CX1		El Ghrandi, R.; Calas, J.; Galibert, G.; Averous, M., Silver photodissolution in amorphous chalcogenide thin films, Thin Solid Films 218 (1992)259-273.	
CY1		El Ghrandi, R.; Calas, J.; Galibert, G., Ag dissolution kinetics in amorphous GeSe _{5.5} thin films from "in-situ" resistance measurements vs time, Phys. Stat. Sol. (a) 123 (1991) 451-460.	
CZ1		El-kady, Y.L., The threshold switching in semiconducting glass Ge ₂₁ Se ₁₇ Te ₆₂ , Indian J. Phys. 70A (1996) 507-516.	
CA2		Elliott, S.R., A unified mechanism for metal photodissolution in amorphous chalcogenide materials, J. Non-Cryst. Solids 130 (1991) 85-97.	
CB2		Elliott, S.R., Photodissolution of metals in chalcogenide glasses: A unified mechanism, J. Non-Cryst. Solids 137-138 (1991) 1031-1034.	
CC2		Elsamanoudy, M.M.; Hegab, N.A.; Fadel, M., Conduction mechanism in the pre-switching state of thin films containing Te As Ge Si, Vacuum 46 (1995) 701-707.	
CD2		El-Zahed, H.; El-Korashy, A., Influence of composition on the electrical and optical properties of Ge ₂₀ BixSe _{80-x} films, Thin Solid Films 376 (2000) 236-240.	
CE2		Fadel, M., Switching phenomenon in evaporated Se-Ge-As thin films of amorphous chalcogenide glass, Vacuum 44 (1993) 851-855.	
CF2		Fadel, M.; El-Shair, H.T., Electrical, thermal and optical properties of Se ₇₅ Ge ₇ Sb ₁₈ , Vacuum 43 (1992) 253-257.	
CG2		Feng, X.; Bresser, W.J.; Boolchand, P., Direct evidence for stiffness threshold in Chalcogenide glasses, Phys. Rev. Lett. 78 (1997) 4422-4425.	
CH2		Feng, X.; Bresser, W.J.; Zhang, M.; Goodman, B.; Boolchand, P., Role of network connectivity on the elastic, plastic and thermal behavior of covalent glasses, J. Non-Cryst. Solids 222 (1997) 137-143.	
CI2		Fischer-Colbrie, A.; Bienenstock, A.; Fuoss, P.H.; Marcus, M.A., Structure and bonding in photodiffused amorphous Ag-GeSe ₂ thin films, Phys. Rev. B 38 (1988) 12388-12403.	
CJ2		Fleury, G.; Hamou, A.; Viger, C.; Vautier, C., Conductivity and crystallization of amorphous selenium, Phys. Stat. Sol. (a) 64 (1981) 311-316.	
CK2		Fritzsche, H., Optical and electrical energy gaps in amorphous semiconductors, J. Non-Cryst. Solids 6 (1971) 49-71.	
CL2		Fritzsche, H., Electronic phenomena in amorphous semiconductors, Annual Review of Materials Science 2 (1972) 697-744.	
CM2		Gates, B.; Wu, Y.; Yin, Y.; Yang, P.; Xia, Y., Single-crystalline nanowires of Ag ₂ Se can be synthesized by templating against nanowires of trigonal Se, J. Am. Chem. Soc. (2001) currently ASAP.	
CN2		Gosain, D.P.; Nakamura, M.; Shimizu, T.; Suzuki, M.; Okano, S., Nonvolatile memory based on reversible phase transition phenomena in telluride glasses, Jap. J. Appl. Phys. 28 (1989) 1013-1018.	
CO2		Guin, J.-P.; Rouxel, T.; Keryvin, V.; Sangleboeuf, J.-C.; Serre, I.; Lucas, J., Indentation creep of Ge-Se chalcogenide glasses below Tg: elastic recovery and non-Newtonian flow, J. Non-Cryst. Solids 298 (2002) 260-269.	
CP2		Guin, J.-P.; Rouxel, T.; Sangleboeuf, J.-C.; Melscoet, I.; Lucas, J., Hardness, toughness, and scratchability of germanium-selenium chalcogenide glasses, J. Am. Ceram. Soc. 85 (2002) 1545-52.	
CQ2		Gupta, Y.P., On electrical switching and memory effects in amorphous chalcogenides, J. Non-Cryst. Sol. 3 (1970) 148-154.	

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>			C mplete if Known		
			Application Number	NEW	
			Filing Date	January 7, 2004	
			First Named Inventor	Jiutao Li	
			Group Art Unit	N/A	
			Examiner Name	Not Yet Assigned	
Sheet	6	of	9	Attorney Docket Number	M4065.0609/P609/P609-D

	CR2	Haberland, D.R.; Stiegler, H., New experiments on the charge-controlled switching effect in amorphous semiconductors, J. Non-Cryst. Solids 8-10 (1972) 408-414.	
	CS2	Haifz, M.M.; Ibrahim, M.M.; Dongol, M.; Hammad, F.H., Effect of composition on the structure and electrical properties of As-Se-Cu glasses, J. Apply. Phys. 54 (1983) 1950-1954.	
	CT2	Hajto, J.; Rose, M.J.; Osborne, I.S.; Snell, A.J.; Le Comber, P.G.; Owen, A.E., Quantization effects in metal/a-Si:H/metal devices, Int. J. Electronics 73 (1992) 911-913.	
	CU2	Hajto, J.; Hu, J.; Snell, A.J.; Turvey, K.; Rose, M., DC and AC measurements on metal/a-Si:H/metal room temperature quantised resistance devices, J. Non-Cryst. Solids 266-269 (2000) 1058-1061.	
	CV2	Hajto, J.; McAuley, B.; Snell, A.J.; Owen, A.E., Theory of room temperature quantized resistance effects in metal-a-Si:H-metal thin film structures, J. Non-Cryst. Solids 198-200 (1996) 825-828.	
	CW2	Hajto, J.; Owen, A.E.; Snell, A.J.; Le Comber, P.G.; Rose, M.J., Analogue memory and ballistic electron effects in metal-amorphous silicon structures, Phil. Mag. B 63 (1991) 349-369.	
	CX2	Hayashi, T.; Ono, Y.; Fukaya, M.; Kan, H., Polarized memory switching in amorphous Se film, Japan. J. Appl. Phys. 13 (1974) 1163-1164.	
	CY2	Hegab, N.A.; Fadel, M.; Sedeek, K., Memory switching phenomena in thin films of chalcogenide semiconductors, Vacuum 45 (1994) 459-462.	
	CZ2	Hong, K.S.; Speyer, R.F., Switching behavior in II-IV-V2 amorphous semiconductor systems, J. Non-Cryst. Solids 116 (1990) 191-200.	
	CA3	Hosokawa, S., Atomic and electronic structures of glassy GexSe1-x around the stiffness threshold composition, J. Optoelectronics and Advanced Materials 3 (2001) 199-214.	
	CB3	Hu, J.; Snell, A.J.; Hajto, J.; Owen, A.E., Constant current forming in Cr/p+a-/Si:H/V thin film devices, J. Non-Cryst. Solids 227-230 (1998) 1187-1191.	
	CC3	Hu, J.; Hajto, J.; Snell, A.J.; Owen, A.E.; Rose, M.J., Capacitance anomaly near the metal-non-metal transition in Cr-hydrogenated amorphous Si-V thin-film devices, Phil. Mag. B. 74 (1996) 37-50.	
	CD3	Hu, J.; Snell, A.J.; Hajto, J.; Owen, A.E., Current-induced instability in Cr-p+a-/Si:H-V thin film devices, Phil. Mag. B 80 (2000) 29-43.	
	CE3	Iizima, S.; Sugi, M.; Kikuchi, M.; Tanaka, K., Electrical and thermal properties of semiconducting glasses As-Te-Ge, Solid State Comm. 8 (1970) 153-155.	
	CF3	Ishikawa, R.; Kikuchi, M., Photovoltaic study on the photo-enhanced diffusion of Ag in amorphous films of Ge2S3, J. Non-Cryst. Solids 35 & 36 (1980) 1061-1066.	
	CG3	Iyetomi, H.; Vashishta, P.; Kalra, R.K., Incipient phase separation in Ag/Ge/Se glasses: clustering of Ag atoms, J. Non-Cryst. Solids 262 (2000) 135-142.	
	CH3	Jones, G.; Collins, R.A., Switching properties of thin selenium films under pulsed bias, Thin Solid Films 40 (1977) L15-L18.	
	CI3	Joullie, A.M.; Marucchi, J., On the DC electrical conduction of amorphous As2Se7 before switching, Phys. Stat. Sol. (a) 13 (1972) K105-K109.	
	CJ3	Joullie, A.M.; Marucchi, J., Electrical properties of the amorphous alloy As2Se5, Mat. Res. Bull. 8 (1973) 433-442.	
	CK3	Kaplan, T.; Adler, D., Electrothermal switching in amorphous semiconductors, J. Non-Cryst. Solids 8-10 (1972) 538-543.	
	CL3	Kawaguchi, T.; Maruno, S.; Elliott, S.R., Optical, electrical, and structural properties of amorphous Ag-Ge-S and Ag-Ge-Se films and comparison of photoinduced and thermally induced phenomena of both systems, J. Appl. Phys. 79 (1996) 9096-9104.	
	CM3	Kawaguchi, T.; Masui, K., Analysis of change in optical transmission spectra resulting from Ag photodoping in chalcogenide film, Japn. J. Appl. Phys. 26 (1987) 15-21.	
	CN3	Kawasaki, M.; Kawamura, J.; Nakamura, Y.; Aniya, M., Ionic conductivity of Agx(GeSe3)1-x (0<=x<=0.571) glasses, Solid state Ionics 123 (1999) 259-269.	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	NEW
				Filing Date	January 7, 2004
				First Named Inventor	Jiutao Li
				Group Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	7	of	9	Attorney Docket Number	M4065.0609/P609/P609-D

	CO3	Kluge, G.; Thomas, A.; Klages, R.; Grotzschel, R., Silver photodiffusion in amorphous GexSe100-x, J. Non-Cryst. Solids 124 (1990) 186-193.	
	CP3	Kolobov, A.V., On the origin of p-type conductivity in amorphous chalcogenides, J. Non-Cryst. Solids 198-200 (1996) 728-731.	
	CQ3	Kolobov, A.V., Lateral diffusion of silver in vitreous chalcogenide films, J. Non-Cryst. Solids 137-138 (1991) 1027-1030.	
	CR3	Korkinova, Ts.N.; Andreichin, R.E., Chalcogenide glass polarization and the type of contacts, J. Non-Cryst. Solids 194 (1996) 256-259.	
	CS3	Kotkata, M.F.; Afif, M.A.; Labib, H.H.; Hegab, N.A.; Abdel-Aziz, M.M., Memory switching in amorphous GeSeTi chalcogenide semiconductor films, Thin Solid Films 240 (1994) 143-146.	
	CT3	Lakshminarayan, K.N.; Srivastava, K.K.; Panwar, O.S.; Dumar, A., Amorphous semiconductor devices: memory and switching mechanism, J. Instn Electronics & Telecom. Engrs 27 (1981) 16-19.	
	CU3	Lal, M.; Goyal, N., Chemical bond approach to study the memory and threshold switching chalcogenide glasses, Indian Journal of pure & appl. phys. 29 (1991) 303-304.	
	CV3	Leimer, F.; Stotzel, H.; Kottwitz, A., Isothermal electrical polarisation of amorphous GeSe films with blocking Al contacts influenced by Poole-Frenkel conduction, Phys. Stat. Sol. (a) 29 (1975) K129-K132.	
	CW3	Leung, W.; Cheung, N.; Neureuther, A.R., Photoinduced diffusion of Ag in GexSe1-x glass, Appl. Phys. Lett. 46 (1985) 543-545.	
	CX3	Matsushita, T.; Yamagami, T.; Okuda, M., Polarized memory effect observed on Se-SnO2 system, Jap. J. Appl. Phys. 11 (1972) 1657-1662.	
	CY3	Matsushita, T.; Yamagami, T.; Okuda, M., Polarized memory effect observed on amorphous selenium thin films, Jpn. J. Appl. Phys. 11 (1972) 606.	
	CZ3	Mazurier, F.; Levy, M.; Souquet, J.L., Reversible and irreversible electrical switching in TeO2-V2O5 based glasses, Journal de Physique IV 2 (1992) C2-185 - C2-188.	
	CA4	Messoussi, R.; Bernede, J.C.; Benhida, S.; Abachi, T.; Latif, A., Electrical characterization of M/Se structures (M=Ni,Bi), Mat. Chem. And Phys. 28 (1991) 253-258.	
	CB4	Mitkova, M.; Boolchand, P., Microscopic origin of the glass forming tendency in chalcogenides and constraint theory, J. Non-Cryst. Solids 240 (1998) 1-21.	
	CC4	Mitkova, M.; Kozicki, M.N., Silver incorporation in Ge-Se glasses used in programmable metallization cell devices, J. Non-Cryst. Solids 299-302 (2002) 1023-1027.	
	CD4	Mitkova, M.; Wang, Y.; Boolchand, P., Dual chemical role of Ag as an additive in chalcogenide glasses, Phys. Rev. Lett. 83 (1999) 3848-3851.	
	CE4	Miyatani, S.-y., Electronic and ionic conduction in (AgxCu1-x)2Se, J. Phys. Soc. Japan 34 (1973) 423-432.	
	CF4	Miyatani, S.-y., Electrical properties of Ag2Se, J. Phys. Soc. Japan 13 (1958) 317.	
	CG4	Miyatani, S.-y., Ionic conduction in beta-Ag2Te and beta-Ag2Se, Journal Phys. Soc. Japan 14 (1959) 996-1002.	
	CH4	Mott, N.F., Conduction in glasses containing transition metal ions, J. Non-Cryst. Solids 1 (1968) 1-17.	
	CI4	Nakayama, K.; Kitagawa, T.; Ohmura, M.; Suzuki, M., Nonvolatile memory based on phase transitions in chalcogenide thin films, Jpn. J. Appl. Phys. 32 (1993) 564-569.	
	CJ4	Nakayama, K.; Kojima, K.; Hayakawa, F.; Imai, Y.; Kitagawa, A.; Suzuki, M., Submicron nonvolatile memory cell based on reversible phase transition in chalcogenide glasses, Jpn. J. Appl. Phys. 39 (2000) 6157-6161.	
	CK4	Nang, T.T.; Okuda, M.; Matsushita, T.; Yokota, S.; Suzuki, A., Electrical and optical parameters of GexSe1-x amorphous thin films, Jap. J. App. Phys. 15 (1976) 849-853.	
	CL4	Narayanan, R.A.; Asokan, S.; Kumar, A., Evidence concerning the effect of topology on electrical switching in chalcogenide network glasses, Phys. Rev. B 54 (1996) 4413-4415.	
	CM4	Neale, R.G.; Aseltine, J.A., The application of amorphous materials to computer memories,	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known			
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	NEW		
		Filing Date	January 7, 2004		
		First Named Inventor	Jiutao Li		
		Group Art Unit	N/A		
		Examiner Name	Not Yet Assigned		
Sheet	8	of	9	Attorney Docket Number	M4065.0609/P609/P609-D

		IEEE transactions on electron dev. Ed-20 (1973) 195-209.	
	CN4	Ovshinsky S.R.; Fritzsche, H., Reversible structural transformations in amorphous semiconductors for memory and logic, Metallurgical transactions 2 (1971) 641-645.	
	CO4	Ovshinsky, S.R., Reversible electrical switching phenomena in disordered structures, Phys. Rev. Lett. 21 (1968) 1450-1453.	
	CP4	Owen, A.E.; LeComber, P.G.; Sarraayrouse, G.; Spear, W.E., New amorphous-silicon electrically programmable nonvolatile switching device, IEE Proc. 129 (1982) 51-54	
	CQ4	Owen, A.E.; Firth, A.P.; Ewen, P.J.S., Photo-induced structural and physico-chemical changes in amorphous chalcogenide semiconductors, Phil. Mag. B 52 (1985) 347-362.	
	CR4	Owen, A.E.; Le Comber, P.G.; Hajto, J.; Rose, M.J.; Snell, A.J., Switching in amorphous devices, Int. J. Electronics 73 (1992) 897-906.	
	CS4	Pearson, A.D.; Miller, C.E., Filamentary conduction in semiconducting glass diodes, App. Phys. Lett. 14 (1969) 280-282.	
	CT4	Pinto, R.; Ramanathan, K.V., Electric field induced memory switching in thin films of the chalcogenide system Ge-As-Se, Appl. Phys. Lett. 19 (1971) 221-223.	
	CU4	Popescu, C., The effect of local non-uniformities on thermal switching and high field behavior of structures with chalcogenide glasses, Solid-state electronics 18 (1975) 671-681.	
	CV4	Popescu, C.; Croitoru, N., The contribution of the lateral thermal instability to the switching phenomenon, J. Non-Cryst. Solids 8-10 (1972) 531-537.	
	CW4	Popov, A.I.; Geller, I.KH.; Shemetova, V.K., Memory and threshold switching effects in amorphous selenium, Phys. Stat. Sol. (a) 44 (1977) K71-K73.	
	CX4	Prakash, S.; Asokan, S.; Ghare, D.B., Easily reversible memory switching in Ge-As-Te glasses, J. Phys. D: Appl. Phys. 29 (1996) 2004-2008.	
	CY4	Rahman, S.; Sivarama Sastry, G., Electronic switching in Ge-Bi-Se-Te glasses, Mat. Sci. and Eng. B12 (1992) 219-222.	
	CZ4	Ramesh, K.; Asokan, S.; Sangunni, K.S.; Gopal, E.S.R., Electrical Switching in germanium telluride glasses doped with Cu and Ag, Appl. Phys. A 69 (1999) 421-425.	
	CA5	Rose, M.J.; Hajto, J.; Lecomber, P.G.; Gage, S.M.; Choi, W.K.; Snell, A.J.; Owen, A.E., Amorphous silicon analogue memory devices, J. Non-Cryst. Solids 115 (1989) 168-170.	
	CB5	Rose, M.J.; Snell, A.J.; Lecomber, P.G.; Hajto, J.; Fitzgerald, A.G.; Owen, A.E., Aspects of non-volatility in a -Si:H memory devices, Mat. Res. Soc. Symp. Proc. V 258, 1992, 1075-1080.	
	CC5	Schuoocker, D.; Rieder, G., On the reliability of amorphous chalcogenide switching devices, J. Non-Cryst. Solids 29 (1978) 397-407.	
	CD5	Sharma, A.K.; Singh, B., Electrical conductivity measurements of evaporated selenium films in vacuum, Proc. Indian Natn. Sci. Acad. 46, A, (1980) 362-368.	
	CE5	Sharma, P., Structural, electrical and optical properties of silver selenide films, Ind. J. Of pure and applied phys. 35 (1997) 424-427.	
	CF5	Snell, A.J.; Lecomber, P.G.; Hajto, J.; Rose, M.J.; Owen, A.E.; Osborne, I.L., Analogue memory effects in metal/a-Si:H/metal memory devices, J. Non-Cryst. Solids 137-138 (1991) 1257-1262.	
	CG5	Snell, A.J.; Hajto, J.; Rose, M.J.; Osborne, L.S.; Holmes, A.; Owen, A.E.; Gibson, R.A.G., Analogue memory effects in metal/a-Si:H/metal thin film structures, Mat. Res. Soc. Symp. Proc. V 297, 1993, 1017-1021.	
	CH5	Steventon, A.G., Microfilaments in amorphous chalcogenide memory devices, J. Phys. D: Appl. Phys. 8 (1975) L120-L122.	
	CI5	Steventon, A.G., The switching mechanisms in amorphous chalcogenide memory devices, J. Non-Cryst. Solids 21 (1976) 319-329.	
	CJ5	Stocker, H.J., Bulk and thin film switching and memory effects in semiconducting chalcogenide glasses, App. Phys. Lett. 15 (1969) 55-57.	
	CK5	Tanaka, K., Ionic and mixed conductions in Ag photodoping process, Mod. Phys. Lett B 4 (1990) 1373-1377.	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	NEW
				Filing Date	January 7, 2004
				First Named Inventor	Jiutao Li
				Group Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	9	of	9	Attorney Docket Number	M4065.0609/P609/P609-D

CL5	Tanaka, K.; Iizima, S.; Sugi, M.; Okada, Y.; Kikuchi, M., Thermal effects on switching phenomenon in chalcogenide amorphous semiconductors, Solid State Comm. 8 (1970) 387-389.	
CM5	Thornburg, D.D., Memory switching in a Type I amorphous chalcogenide, J. Elect. Mat. 2 (1973) 3-15.	
CN5	Thornburg, D.D., Memory switching in amorphous arsenic triselenide, J. Non-Cryst. Solids 11 (1972) 113-120.	
CO5	Thornburg, D.D.; White, R.M., Electric field enhanced phase separation and memory switching in amorphous arsenic triselenide, Journal(?) (1972) 4609-4612.	
CP5	Tichy, L.; Ticha, H., Remark on the glass-forming ability in GexSe1-x and AsxSe1-x systems, J. Non-Cryst. Solids 261 (2000) 277-281.	
CQ5	Titus, S.S.K.; Chatterjee, R.; Asokan, S., Electrical switching and short-range order in As-Te glasses, Phys. Rev. B 48 (1993) 14650-14652.	
CR5	Tranchant, S.; Peytavin, S.; Ribes, M.; Flank, A.M.; Dexpert, H.; Lagarde, J.P., Silver chalcogenide glasses Ag-Ge-Se: Ionic conduction and exafs structural investigation, Transport-structure relations in fast ion and mixed conductors Proceedings of the 6th Riso International symposium. 9-13 September 1985.	
CS5	Tregouet, Y.; Bernede, J.C., Silver movements in Ag2Te thin films: switching and memory effects, Thin Solid Films 57 (1979) 49-54.	
CT5	Uemura, O.; Kameda, Y.; Kokai, S.; Satow, T., Thermally induced crystallization of amorphous Ge0.4Se0.6, J. Non-Cryst. Solids 117-118 (1990) 219-221.	
CU5	Uttech, R.; Stevenson, H.; Sie, C.H.; Griener, J.D.; Raghavan, K.S., Electric field induced filament formation in As-Te-Ge glass, J. Non-Cryst. Solids 2 (1970) 358-370.	
CV5	Viger, C.; Lefrancois, G.; Fleury, G., Anomalous behaviour of amorphous selenium films, J. Non-Cryst. Solids 33 (1976) 267-272.	
CD5	Vodenicharov, C.; Parvanov, S.; Petkov, P., Electrode-limited currents in the thin-film M-GeSe-M system, Mat. Chem. And Phys. 21 (1989) 447-454.	
CX5	Wang, S.-J.; Misium, G.R.; Camp, J.C.; Chen, K.-L.; Tigelaar, H.L., High-performance Metal/silicide antifuse, IEEE electron dev. Lett. 13 (1992) 471-472.	
CY5	Weirauch, D.F., Threshold switching and thermal filaments in amorphous semiconductors, App. Phys. Lett. 16 (1970) 72-73.	
CZ5	West, W.C.; Sieradzki, K.; Kardynal, B.; Kozicki, M.N., Equivalent circuit modeling of the Ag As0.24S0.36Ag0.40 Ag System prepared by photodissolution of Ag, J. Electrochem. Soc. 145 (1998) 2971-2974	
CA6	West, W.C., Electrically erasable non-volatile memory via electrochemical deposition of multifractal aggregates, Ph.D. Dissertation, ASU 1998	
CB6	Zhang, M.; Mancini, S.; Bresser, W.; Boolchand, P., Variation of glass transition temperature, Tg, with average coordination number, <m>, in network glasses: evidence of a threshold behavior in the slope dTg/d<m> at the rigidity percolation threshold (<m>=2.4), J. Non-Cryst. Solids 151 (1992) 149-154.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.